alkyl ester, thiosulfate, or sulfonamido; and Y is cyano, isocyano, amino, alkyl amino, aminocarbonyl, aminocarbonyl alkyl, alkylcarbonylamino, amidino, guanidine, hydrazino, hydrazide, hydroxyl, alkoxy, aryloxy, hetroaryloxy, cyloalkyloxy, carbonyloxy, alkylcarbonyloxy, haloakylcarbonyloxy, arylcarbonyloxy, carbonylperoxy, alkylcarbonylperoxy, phosphate, alkylphosphate esters, sulfonic acid, sulfonic alkyl ester, thiosulfate, thiosulfenyl, sulfonamide; —R²³R²⁴, wherein R²³ is Se or Se—Se, and R²⁴ is defined as for R²¹ herein, or Y is

$$-x <_{(R^{22})_m}^{(R^{21})_n}$$

wherein X, R²¹ and R²², are as defined herein.

- **2.-3**. (canceled)
- **4**. A method of reducing cellular damage due to a disease, an adverse medical condition, or a surgery, comprising providing to a subject in need thereof an effective amount of the pharmaceutical composition according to claim **1**.
- 5. The method of claim 4, wherein said pharmaceutical composition is a liquid.
- 6. The method of claim 4, wherein said pharmaceutical composition is a gas.
- 7. The method of claim 4, wherein the disease or adverse medical condition is selected from the group consisting of hemorrhagic shock, myocardial infarction, cardiac arrest, ischemia/reperfusion injury, unstable angina, post-angio-

plasty, aneurysm, trauma, stroke, coronary artery bypass graft (CABG) surgery, and blood loss.

- **8**. A method of protecting biological matter from an injury, the onset or progression of a disease, or death comprising providing to the matter, before the injury, the onset or progression of a disease, or death, an effective amount of thereof an effective amount of the pharmaceutical composition according to claim 1, wherein the effective amount is less than an amount that can induce stasis in the biological matter.
 - 9.-14. (canceled)
- 15. The method of claim 8, wherein the injury comprises hypoxic or ischemic conditions, and wherein the method enhances survivability of the matter.
 - 16. (canceled)
- 17. The method of claim 15, wherein the ischemic or hypoxic condition is due to myocardial infarction, stroke, blood loss, coronary artery bypass graft (CABG) surgery, or angioplasty.
 - 18.-22. (canceled)
- 23. A method of protecting biological matter from an injury, the onset or progression of a disease, or death comprising providing to the matter, before the injury, the onset or progression of a disease, or death, an effective amount the pharmaceutical composition of claim 1, wherein the effective amount is less than an amount that can induce stasis in the biological matter and wherein the biological matter is hemorrhaging.
 - 24.-32. (canceled)
- 33. The method of claim 29, wherein the surgery is cardiopulmonary surgery.

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